



DECUS

PROGRAM LIBRARY

DECUS NO.	5-277
TITLE	ICBM
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SOURCE LANGUAGE	PAL III

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ICBM

DECUS Program Library Write-up

DECUS No. 5-277

Sample output and input from ASR-33 is shown below with explanations in parenthesis.

(Program is started at 0200₈.)

INSTRUCTIONS

Speeds S/B < or = to 30₈.

Return key will ask questions again.

Rubout will return to system.

Note: Control keys operate only during display.

(Control keys are return and rubout.)

(S/B=should be less than or equal to 30₈.)

Rocket speed=12

UFO speed=14

(Both speeds are octal numbers followed by a return.)

Hit a key to fire rocket.

(Any key except the 2 control keys will fire the rocket.)

Rocket speed=(At this point I finally hit the saucer and it is asking me for another rocket speed)

UFO speed=1.

Hit a key to fire rocket.

Rocket speed=(I didn't hit it this time but hit the return key to ask the questions again.)

UFO speed=3.

Hit a key to fire rocket.

Rocket speed=13.

UFO speed=30₈.

Hit a key to fire rocket.

(Rubout hit here and the program went to the system.)

Escape.

Another version of the program is available if you have the following equipment: Light Pen, at least 4 channel multiplexor, analog to digital convertor, hardware character generator.

/ 4/15/70
 TITLE ICBM-1970 TTY VERSION
 /FLYING SAUCER-ROCKET PROGRAM
 /FOR THE PDP-5 COMPUTER.
 *14

0014 0000 MESCNT,0
 /ALL CONSTANTS AND VARIABLES USED IN ROCKET, FS.
 /LOCATIONS 10-17 USED AS AUTO-INDEXING REGISTERS.
 *20

0020 0000 SPEEDR,0
 0021 0000 SPEEDF,0
 0022 0000 MROCK,0
 0023 0000 MFS,0
 /ROCKET STALL CONSTANT.

0024 7213 STAL,-565
 0025 7563 MRETURN,-CR
 0026 0212 LINEFD,LF
 0027 0215 RETURN,CR
 0030 0000 SYM,0
 0031 1201 MESS,MESSAG-1
 0032 1663 INSTR,INSDAT-1
 0033 0001 CI,1
 0034 0000 COUNTR,0
 0035 0000 COUNTF,0
 0036 1777 CROCKP,2000-1
 0037 0777 CROCK,ROCDAT-1
 0040 1377 CFSDAT,FLYDAT-1
 0041 2377 CFSDAP,2400-1
 0042 1400 CFSDAA,FLYDAT
 0043 7401 M377,-377
 0044 6200 M1600,-1600
 0045 0000 DIVIDE,0

/ADDRESS EXIT TO DIGITAL DECTAPE SYSTEM.
 /ALTER THIS ADDRESS TO SUIT YOUR OWN USE.

0046 7600 C7600,7600
 0047 0007 C7,7
 0050 7740 MHIT,-40
 0051 0000 TEMPA,0
 0052 0000 TEMPB,0
 0053 0000 CNT,0
 0054 7775 M3,-3
 0055 0741 CRLFEN,CRLF
 0056 0377 C377,377
 0057 0400 CRAISE,400
 0060 0020 C20,20
 0061 0725 PRNT,PRNT1
 0062 0600 TESTMT,TEST
 0063 0040 CHIT,40
 0064 0000 XR,0
 0065 0206 GHOST,REST

/HIT CHECK COORDINATES.

0066 2176 CR1,TAGR1+1000
 0067 2177 CR2,TAGR2+1000
 0070 2502 CF1,TAGF1+1000
 0071 2503 CF2,TAGF2+1000
 0072 0706 CHAN,CHANG
 0073 0400 ROCKET,ROCKT
 0074 0500 FS,FLY
 0075 0421 ROCINI,ROCIN
 0076 0520 SAUINI,FSINI
 0077 0443 STALL,RSTALL

0100	0750	CHECK,CCHECK
0101	0000	TEMP,0
0102	0000	INCREM,0
0103	5203	INSTJP,5203 /JMP LOC 003 CURRENT PAGE.
0104	7700	M100,-100
0105	7500	M300,-300
		*200
		/MAIN PROGRAM TO CONTROL THE ROCKET AND UFO.
0200	4472	BEGIN,JMS I CHAN
0201	6032	KCC
		/PRINT INSTRUCTIONS THE FIRST TIME.
0202	4271	JMS GETSTR
0203	7200	CLA
0204	1103	TAD INSTJP
0205	3200	DCA BEGIN
0206	6032	REST,KCC
		/GET SPEEDS.
0207	4276	JMS GET
0210	4455	JMS I CRLFEN
0211	1020	TAD SPEEDR
0212	4214	JMS DIVID
0213	5232	JMP PUTIN
		/DIVIDE SUBROUTINE.
		/CALCULATE HOW MANY TIMES TO ADD SPEED
		/SO THE SCOPE IS NOT OVERFLOWED.
0214	0000	DIVID,0
0215	3101	DCA TEMP
0216	3045	DCA DIVIDE
0217	1101	TAD TEMP
0220	7650	SNA CLA
0221	5206	JMP REST
0222	1044	TAD M1600
0223	1101	TAD TEMP
0224	2045	ISZ DIVIDE
0225	7510	SPA
0226	5223	JMP --3
0227	7200	CLA
0230	1045	TAD DIVIDE
0231	5614	JMP I DIVID
		/
0232	3022	PUTIN,DCA MROCK
0233	1021	TAD SPEEDF
0234	4214	JMS DIVID
0235	3023	DCA MFS
		/MAIN DISPLAY CONTROL.
		/RESET ROCKET & FLYING SAUCER.
0236	4475	START,JMS I ROCINI
0237	4476	JMS I SAUINI
0240	6031	GOON,KSF
0241	5260	JMP CONTF5
		/IF FLAG=1 SEE IF RUB-OUT OR RETURN,
		/IF NEITHER START DISPLAYING ROCKET.
0242	7200	CLA
0243	6034	KRS
0244	1025	TAD MRETURN
0245	7650	SNA CLA
0246	5206	JMP REST
0247	6034	KRS
0250	1043	TAD M377
0251	7450	SNA
0252	4500	JMS I CHECK
0253	4473	JMS I ROCKET

0254	2034	ISZ COUNTR
0255	5260	JMP .+3
		/IF THE ROCKET IS AT THE TOP OF THE SCREEN
		/RESET IT AND CLEAR THE FLAG.
0256	4475	JMS I ROCINI
0257	6032	KCC
0260	4474	CONTFS,JMS I FS
0261	6031	KSF
0262	4477	JMS I STALL
		/SEE IF IT IS A HIT.
0263	4462	JMS I TESTHT
0264	7200	CLA
0265	2035	ISZ COUNTF
0266	7410	SKP
		/RESET FLYING SAUCER.
0267	4476	JMS I SAUINI
0270	5240	JMP GOON
		/THIS IS THE ROUTINE THAT PRINTS OUT THE INSTRUCTIONS.
0271	0000	GETSTR,0
0272	7200	CLA
0273	1032	TAD INSTR
0274	3014	DCA MESCNT
0275	5301	JMP .+4
		/THIS IS THE ROUTINE THAT GETS THE PARAMETERS.
0276	0203	GET,203
0277	1031	TAD MESS
0300	3014	DCA MESCNT
0301	4455	JMS I CRLFEN
0302	1060	TAD C20
0303	3101	DCA TEMP
0304	3020	DCA SPEEDR
0305	3021	DCA SPEEDF
0306	1414	CONTUE,TAD I MESCNT
0307	7510	SPA
0310	5676	JMP I GET
0311	7440	SZA
0312	5314	JMP CONT3
0313	5316	JMP GETCAR
0314	4461	CONT3,JMS I PRNT
0315	5306	JMP CONTUE
0316	6031	GETCAR,KSF
0317	5316	JMP .-1
0320	6036	KRB
0321	3030	DCA SYM
0322	1030	TAD SYM
0323	4461	JMS I PRNT
		/RETURN SIGNIFIES END OF ENTRY.
0324	1030	TAD SYM
0325	1025	TAD MRETURN
0326	7640	SZA CLA
0327	5333	JMP CONT5
0330	4455	JMS I CRLFEN
0331	2101	ISZ TEMP
0332	5306	JMP CONTUE
0333	1030	CONT5,TAD SYM
0334	0047	AND C7
0335	3030	DCA SYM
0336	1501	TAD I TEMP
0337	7106	
0340	7004	CLL RTL,RAL
0341	1030	TAD SYM
0342	3501	DCA I TEMP


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0343 5316 JMP GETCAR
/
/*****EDITING BREAK*****/
/
/ROCKET SUBROUTINE.
*10
0010 0000 XCO,0
0011 0000 XPUT,0
*400
0400 0000 ROCKT,0
0401 7200 RESET,CLA
0402 1036 TAD CROCKP
0403 3011 DCA XPUT
0404 1036 TAD CROCKP
0405 3010 DCA XCO
0406 1410 STARTA,TAD I XCO
0407 7510 SPA
0410 5600 JMP I ROCKT
0411 6053 DXL
0412 1020 TAD SPEEDR
0413 3411 DCA I XPUT
0414 1410 TAD I XCO
0415 6067 DYS
0416 1020 TAD SPEEDR
0417 3411 DCA I XPUT
0420 5206 JMP STARTA
/RESET ROCKET TO STARTING POSITION.
0421 0000 ROCIN,0
0422 7200 CLA
0423 1022 TAD MROCK
0424 7041 CIA
0425 3034 DCA COUNTR
0426 1037 TAD CROCK
0427 3010 DCA XCO
0430 1036 TAD CROCKP
0431 3011 DCA XPUT
0432 1410 GOONI,TAD I XCO
0433 7510 SPA
0434 5237 JMP CONT
0435 3411 DCA I XPUT
0436 5232 JMP GOONI
0437 3411 CONT,DCA I XPUT
0440 1044 TAD M1600
0441 3411 DCA I XPUT
0442 5621 JMP I ROCIN
/THIS ROUTINE STALLS IF THE ROCKET IS NOT FIRING
0443 0000 RSTALL,0
0444 7200 CLA
0445 1024 TAD STAL
0446 3101 DCA TEMP
0447 2101 ISZ TEMP
0450 5247 JMP --1
0451 5643 JMP I RSTALL
/FLYING SAUCER SUBROUTINE.
*12
0012 0000 XCOO,0
0013 0000 XPUTT,0
*500
0500 0000 FLY,0
0501 7200 RESETT,CLA
0502 1041 TAD CFSOAP
0503 3013 DCA XPUTT

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0504 1041 TAD CFSDAP
0505 3012 DCA XCOO
0506 1412 STARTT,TAD I XCOO
0507 7510 SPA
0510 5700 JMP I FLY
0511 6053 DXL
0512 1021 TAD SPEEDF
0513 3413 DCA I XPUTT
0514 1412 TAD I XCOO
0515 6067 DYS
0516 3413 DCA I XPUTT
0517 5306 JMP STARTT
/RESET FLYING SAUCER TO STARTING POSITION.

0520 0000 FSINI,0
0521 7200 CLA
0522 1023 TAD MFS
0523 7041 CIA
0524 3035 DCA COUNTF
0525 1040 TAD CFSDAT
0526 3012 DCA XCOO
0527 1041 TAD CFSDAP
0530 3013 DCA XPUTT
0531 1412 GOON2,TAD I XCOO
0532 7510 SPA
0533 5336 JMP CONT1
0534 3413 DCA I XPUTT
0535 5331 JMP GOON2
0536 3413 CONT1,DCA I XPUTT
0537 1044 TAD M1600
0540 3413 DCA I XPUTT
0541 5720 JMP I FSINI
/ROUTINE TO SEE IF IT A HIT.
/CONSTANTS C40 AND M40 CONTROL
/HOW CLOSE YOU HAVE TO BE TO SCORE A HIT.
*600

0600 0000 TEST,0
0601 7200 CLA
0602 1054 TAD M3
0603 3053 DCA CNT
0604 1467 TAD I CR2
0605 1063 TAD CHIT
0606 3051 DCA TEMPA
0607 1467 TAD I CR2
0610 1050 TAD MHIT
0611 3052 DCA TEMPB
0612 1051 TAD TEMPA
0613 7041 CIA
0614 1471 TAD I CF2
0615 7710 SPA CLA
0616 2053 ISZ CNT
0617 2053 ISZ CNT
0620 1052 TAD TEMPB
0621 7041 CIA
0622 1471 TAD I CF2
0623 7510 SPA
0624 5230 JMP TEST1
0625 2053 ISZ CNT
0626 5600 JMP I TEST
0627 5233 JMP TESTY
0630 2053 TEST1,ISZ CNT
0631 5233 JMP TESTY
0632 5600 JMP I TEST

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0633	7200	TESTY,CLA
0634	1054	TAD M3
0635	3053	DCA CNT
0636	1466	TAD I CRI
0637	1063	TAD CHIT
0640	3051	DCA TEMPA
0641	1466	TAD I CRI
0642	1050	TAD MHIT
0643	3052	DCA TEMPB
0644	1051	TAD TEMPA
0645	7041	CIA
0646	1470	TAD I CF1
0647	7710	SPA CLA
0650	2053	ISZ CNT
0651	2053	ISZ CNT
0652	1052	TAD TEMPB
0653	7041	CIA
0654	1470	TAD I CF1
0655	7510	SPA
0656	5262	JMP TEST2
0657	2053	ISZ CNT
0660	5600	JMP I TEST
0661	5265	JMP CRAZ
0662	2053	TEST2,ISZ CNT
0663	5265	JMP CRAZ
0664	5600	JMP I TEST
		/DISPLAY GARBAGE FOR HIT!
0665	7200	CRAZ,CLA
0666	1054	TAD M3
0667	3101	DCA TEMP
0670	6032	KCC
0671	1410	CRAZY,TAD I 10
0672	1410	TAD I 10
0673	6053	DXL
0674	2051	ISZ TEMPA
0675	5277	JMP .+2
0676	5303	JMP SEE
0677	7040	SEON,CMA
0700	1410	CONIDS,TAD I 10
0701	6067	DYS
0702	5271	JMP CRAZY
0703	2101	SEE,ISZ TEMP
0704	5277	JMP SEON
0705	5465	JMP I GHOST
		/ROUTINE TO ADD A CONSTANT TO
		/Y-COORDINATES OF THE FLYING SAUCER.
		/CONSTANT "CRAISE" CAN BE CHANGED
		/FOR YOUR OWN USE.
0706	0000	CHANG,0
0707	7200	CLA
0710	1042	TAD CFSDA
0711	3010	DCA 10
0712	1042	TAD CFSDA
0713	3011	DCA 11
0714	1410	KEEP1,TAD I 10
0715	7510	SPA
0716	5324	JMP CONT6
0717	1057	TAD CRAISE
0720	3411	DCA I 11
		/SKIP X-COORDINATES.
0721	1410	TAD I 10
0722	3411	DCA I 11


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0723 5314 JMP KEEP1
0724 5706 CONT6.JMP I CHANG
      /PRINT SUBROUTINE.

0725 0000 PRNT1,0
0726 1043 TAD M377
0727 7440 SZA
0730 5333 JMP .+3
0731 4455 JMS I CRLFEN
0732 5446 JMP I C7600
0733 1056 TAD C377
0734 6041 TSF
0735 5334 JMP .-1
0736 6046 TLS
0737 7300 CLA CLL
0740 5725 JMP I PRNT1
      /CRLF ROUTINE.

0741 0000 CRLF,0
0742 7200 CLA
0743 1027 TAD RETURN
0744 4325 JMS PRNT1
0745 1026 TAD LINEFD
0746 4325 JMS PRNT1
0747 5741 JMP I CRLF
      /MAKE SURE 377 IS IN BUFFER.

0750 0000 CCHECK,0
0751 1105 TAD M300
0752 3102 DCA INCREM
      /STALL LOOP TO BE SURE CHARACTER IS IN BUFFER.

0753 2102 ISZ INCREM
0754 5353 JMP .-1
0755 6034 KRS
0756 1043 TAD M377
0757 7450 SNA
0760 5446 JMP I C7600
0761 5750 JMP I CCHECK
/
/!!!!!!!!!!!!!!EDITING BREAK!!!!!!!!!!!!!!
/
/ROCKET DATA COORDINATES (X,Y).
*1000

1000 0000 ROCDAT,0
1001 0060 60
1002 0004 4
1003 0054 54
1004 0004 4
1005 0060 60
1006 0010 10
1007 0050 50
1010 0010 10
1011 0060 60
1012 0014 14
1013 0044 44
1014 0014 14
1015 0060 60
1016 0020 20
1017 0040 40
1020 0020 20
1021 0060 60
1022 0024 24
1023 0034 34
1024 0024 24
1025 0044 44

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1026	0024	24
1027	0060	60
1030	0030	30
1031	0030	30
1032	0030	30
1033	0050	50
1034	0030	30
1035	0060	60
1036	0034	34
1037	0024	24
1040	0034	34
1041	0054	54
1042	0034	34
1043	0060	60
1044	0040	40
1045	0020	20
1046	0040	40
1047	0060	60
1050	0044	44
1051	0014	14
1052	0044	44
1053	0024	24
1054	0044	44
1055	0054	54
1056	0044	44
1057	0064	64
1060	0050	50
1061	0010	10
1062	0050	50
1063	0030	30
1064	0050	50
1065	0050	50
1066	0050	50
1067	0070	70
1070	0054	54
1071	0004	4
1072	0054	54
1073	0034	34
1074	0054	54
1075	0044	44
1076	0054	54
1077	0074	74
1100	0060	60
1101	0000	0
1102	0060	60
1103	0004	4
1104	0060	60
1105	0010	10
1106	0060	60
1107	0014	14
1110	0060	60
1111	0020	20
1112	0060	60
1113	0024	24
1114	0060	60
1115	0030	30
1116	0060	60
1117	0034	34
1120	0060	60
1121	0040	40
1122	0060	60
1123	0100	100

1124	0064	64
1125	0044	44
1126	0064	64
1127	0074	74
1130	0064	64
1131	0104	104
1132	0070	70
1133	0050	50
1134	0070	70
1135	0070	70
1136	0070	70
1137	0110	110
1140	0074	74
1141	0054	54
1142	0074	74
1143	0064	64
1144	0074	74
1145	0114	114
1146	0100	100
1147	0060	60
1150	0100	100
1151	0120	120
1152	0104	104
1153	0064	64
1154	0104	104
1155	0120	120
1156	0110	110
1157	0070	70
1160	0110	110
1161	0120	120
1162	0114	114
1163	0074	74
1164	0114	114
1165	0120	120
1166	0120	120
1167	0100	100
1170	0120	120
1171	0104	104
1172	0120	120
1173	0110	110
1174	0120	120
1175	0114	114
1176	0120	TAGR1,120
1177	0120	TAGR2,120
1200	4000	4000
1201	4000	4000

/MESSAGES ARE NOT TRIM CODE BECAUSE
 /OF THE NATURE OF THE PRINT & GET ROUTINE.
 /MESSAGES STORED STARTING AT *1202

1202	0322	MESSAG,R
1203	0317	O
1204	0303	C
1205	0313	K
1206	0305	E
1207	0324	T
1210	0240	SPACE
1211	0323	S
1212	0320	P
1213	0305	E
1214	0305	E
1215	0304	D
1216	0275	EQUAL

1217	0000	0
1220	0325	U
1221	0306	F
1222	0317	O
1223	0240	SPACE
1224	0323	S
1225	0320	P
1226	0305	E
1227	0305	E
1230	0304	D
1231	0275	EQUAL
1232	0000	0
1233	0212	LF
1234	0310	H
1235	0311	II
1236	0324	T
1237	0240	SPACE
1240	0301	A
1241	0240	SPACE
1242	0313	K
1243	0305	E
1244	0331	Y
1245	0240	SPACE
1246	0324	T
1247	0317	O
1250	0240	SPACE
1251	0306	F
1252	0311	II
1253	0322	R
1254	0305	E
1255	0240	SPACE
1256	0322	R
1257	0317	O
1260	0303	C
1261	0313	K
1262	0305	E
1263	0324	T
1264	0256	PERIOD
1265	4000	4000

/FLYING SAUCER COORDINATES (X,Y).

*1400

1400	0057	FLYDAT,57
1401	1077	1077
1402	0063	63
1403	1101	1101
1404	0063	63
1405	1077	1077
1406	0063	63
1407	1075	1075
1410	0067	67
1411	1103	1103
1412	0067	67
1413	1077	1077
1414	0067	67
1415	1073	1073
1416	0073	73
1417	1103	1103
1420	0073	73
1421	1077	1077
1422	0073	73
1423	1073	1073
1424	0073	73

1425	1063	1063
1426	0075	75
1427	1067	1067
1430	0077	77
1431	1103	1103
1432	0077	77
1433	1077	1077
1434	0077	77
1435	1073	1073
1436	0077	77
1437	1063	1063
1440	0101	101
1441	1067	1067
1442	0103	103
1443	1103	1103
1444	0103	103
1445	1077	1077
1446	0103	103
1447	1073	1073
1450	0105	105
1451	1107	1107
1452	0107	107
1453	1113	1113
1454	0107	107
1455	1103	1103
1456	0107	107
1457	1077	1077
1460	0107	107
1461	1073	1073
1462	0113	113
1463	1117	1117
1464	0113	113
1465	1103	1103
1466	0113	113
1467	1067	1067
1470	0113	113
1471	1073	1073
1472	0117	117
1473	1123	1123
1474	0117	117
1475	1113	1113
1476	0117	117
1477	1107	1107
1500	0117	117
1501	1103	1103
1502	0117	TAGF1,117
1503	1077	TAGF2,1077
1504	0117	117
1505	1073	1073
1506	0123	123
1507	1123	1123
1510	0123	123
1511	1113	1113
1512	0123	123
1513	1107	1107
1514	0123	123
1515	1103	1103
1516	0123	123
1517	1077	1077
1520	0123	123
1521	1073	1073
1522	0125	125

1523	1125	1125
1524	0127	127
1525	1127	1127
1526	0127	127
1527	1123	1123
1530	0127	127
1531	1103	1103
1532	0127	127
1533	1077	1077
1534	0127	127
1535	1073	1073
1536	0131	131
1537	1125	1125
1540	0133	133
1541	1123	1123
1542	0133	133
1543	1113	1113
1544	0133	133
1545	1107	1107
1546	0133	133
1547	1103	1103
1550	0133	133
1551	1077	1077
1552	0133	133
1553	1073	1073
1554	0137	137
1555	1123	1123
1556	0137	137
1557	1113	1113
1560	0137	137
1561	1107	1107
1562	0137	137
1563	1103	1103
1564	0137	137
1565	1067	1067
1566	0137	137
1567	1073	1073
1570	0143	143
1571	1117	1117
1572	0143	143
1573	1103	1103
1574	0143	143
1575	1077	1077
1576	0143	143
1577	1073	1073
1600	0147	147
1601	1113	1113
1602	0147	147
1603	1103	1103
1604	0147	147
1605	1077	1077
1606	0147	147
1607	1073	1073
1610	0151	151
1611	1107	1107
1612	0153	153
1613	1102	1102
1614	0153	153
1615	1077	1077
1616	0153	153
1617	1073	1073
1620	0155	155

1621	1067	1067
1622	0157	157
1623	1103	1103
1624	0157	157
1625	1077	1077
1626	0157	157
1627	1073	1073
1630	0157	157
1631	1063	1063
1632	0161	161
1633	1067	1067
1634	0163	163
1635	1103	1103
1636	0163	163
1637	1077	1077
1640	0163	163
1641	1073	1073
1642	0163	163
1643	1063	1063
1644	0167	167
1645	1103	1103
1646	0167	167
1647	1077	1077
1650	0167	167
1651	1073	1073
1652	0173	173
1653	1101	1101
1654	0173	173
1655	1075	1075
1656	0173	173
1657	1077	1077
1660	0177	177
1661	1077	1077
1662	4000	4000
1663	4000	4000

/INSTRUCTIONS STORED HERE.
 /IF THEY ARE NOT TO BE PRINTED OUT
 /PUT A 7000 IN LOCATION 202
 /BEFORE STARTING THE PROGRAM.
 /OR PUT A 4000 (- #) IN LOCATION 1664.
 *1664

1664	0215	INSDAT,CR
1665	0212	LF
1666	0311	II
1667	0316	N
1670	0323	S
1671	0324	T
1672	0322	R
1673	0325	U
1674	0303	C
1675	0324	T
1676	0311	II
1677	0317	O
1700	0316	N
1701	0323	S
1702	0272	COLON
1703	0215	CR
1704	0212	LF
1705	0323	S
1706	0320	P
1707	0305	E
1710	0305	E

1711	0304	D
1712	0323	S
1713	0240	SPACE
1714	0323	S
1715	0257	NSLASH
1716	0302	B
1717	0240	SPACE
1720	0274	LT
1721	0240	SPACE
1722	0317	O
1723	0322	R
1724	0240	SPACE
1725	0275	EQUAL
1726	0240	SPACE
1727	0324	T
1730	0317	O
1731	0240	SPACE
1732	0263	THREE
1733	0260	ZERO
1734	0256	PERIOD
1735	0215	CR
1736	0212	LF
1737	0322	R
1740	0305	E
1741	0324	T
1742	0325	U
1743	0322	R
1744	0316	N
1745	0240	SPACE
1746	0313	K
1747	0305	E
1750	0331	Y
1751	0240	SPACE
1752	0327	W
1753	0311	II
1754	0314	L
1755	0314	L
1756	0240	SPACE
1757	0301	A
1760	0323	S
1761	0313	K
1762	0240	SPACE
1763	0321	Q
1764	0325	U
1765	0305	E
1766	0323	S
1767	0324	T
1770	0311	II
1771	0317	O
1772	0316	N
1773	0323	S
1774	0240	SPACE
1775	0301	A
1776	0307	G
1777	0301	A
2000	0311	II
2001	0316	N
2002	0256	PERIOD
2003	0215	CR
2004	0212	LF
2005	0322	R
2006	0325	U

2007	0302	B
2010	0317	O
2011	0325	U
2012	0324	T
2013	0240	SPACE
2014	0327	W
2015	0311	II
2016	0314	L
2017	0314	L
2020	0240	SPACE
2021	0322	R
2022	0305	E
2023	0324	T
2024	0325	U
2025	0322	R
2026	0316	N
2027	0240	SPACE
2030	0324	T
2031	0317	O
2032	0240	SPACE
2033	0323	S
2034	0331	Y
2035	0323	S
2036	0324	T
2037	0305	E
2040	0315	M
2041	0240	SPACE
2042	0256	PERIOD
2043	0215	CR
2044	0212	LF
2045	0316	N
2046	0317	O
2047	0324	T
2050	0305	E
2051	0272	COLON
2052	0240	SPACE
2053	0303	C
2054	0317	O
2055	0316	N
2056	0324	T
2057	0322	R
2060	0317	O
2061	0314	L
2062	0240	SPACE
2063	0313	K
2064	0305	E
2065	0331	Y
2066	0247	SQUOTE
2067	0323	S
2070	0240	SPACE
2071	0317	O
2072	0320	P
2073	0305	E
2074	0322	R
2075	0301	A
2076	0324	T
2077	0305	E
2100	0240	SPACE
2101	0317	O
2102	0316	N
2103	0314	L
2104	0331	Y

2105	0240	SPACE
2106	0304	D
2107	0325	U
2110	0322	R
2111	0311	II
2112	0316	N
2113	0307	G
2114	0240	SPACE
2115	0304	D
2116	0311	II
2117	0323	S
2120	0320	P
2121	0314	L
2122	0301	A
2123	0331	Y
2124	0256	PERIOD
2125	0215	CR
2126	0212	LF
2127	4000	4000

/TABLE OF LETTERS AND THEIR ASCII VALUE IN OCTAL.

A=301
 B=302
 C=303
 D=304
 E=305
 F=306
 G=307
 H=310
 II=311
 J=312
 K=313
 L=314
 M=315
 N=316
 O=317
 P=320
 Q=321
 R=322
 S=323
 T=324
 U=325
 V=326
 W=327
 X=330
 Y=331
 ZZ=332
 ONE=261
 TWO=262
 THREE=263
 FOUR=264
 FIVE=265
 SIX=266
 SEVEN=267
 EIGHT=270
 NINE=271
 ZERO=260
 EX=241 /!
 QUOTE=242
 NUMSIN=243 /#
 DOLLAR=244
 PERCNT=245
 AMPER=246 /&

SQUOTE=247 /
 LPAR=250
 RPAR=251
 ASTER=252
 PLUS=253
 COMMA=254
 MINUS=255
 PERIOD=256
 NSLASH=257
 COLON=272
 SEMCOL=273
 LT=274
 EQUAL=275
 GT=276
 QUES=277
 ATSIGN=300
 LBRAK=333
 LSLASH=334
 RBRAK=335
 LAR=337
 LF=212
 SPACE=240
 CR=215
 BELL=207

A 0301
 AMPER 0246
 ASTER 0252
 ATSIGN 0300
 B 0302
 BEGIN 0200
 BELL 0207
 C 0303
 CCHECK 0750
 CFSDAA 0042
 CFSDAP 0041
 CFSDAT 0040
 CF1 0070
 CF2 0071
 CHAN 0072
 CHANG 0706
 CHECK 0100
 CHIT 0063
 CNT 0053
 COLON 0272
 COMMA 0254
 CONT 0437
 CONTDS 0700
 CONTFS 0260
 CONTUE 0306
 CONT1 0536
 CONT3 0314
 CONT5 0333
 CONT6 0724
 COUNTF 0035
 COUNTR 0034
 CR 0215
 GRAISE 0057
 CRAZ 0665
 CRAZY 0671
 CRLF 0741
 CRLFEN 0055

CROCKP	0036
CR1	0066
CR2	0067
C1	0033
C20	0060
C377	0056
C7	0047
C7600	0046
D	0304
DIVID	0214
DIVIDE	0045
DOLLAR	0244
E	0305
EIGHT	0270
EQUAL	0275
EX	0241
F	0306
FIVE	0265
FLY	0500
FLYDAT	1400
FOUR	0264
FS	0074
FSINI	0520
G	0307
GET	0276
GETCAR	0316
GETSTR	0271
GHOST	0065
GOON	0240
GOON1	0432
GOON2	0531
GT	0276
H	0310
II	0311
INCREM	0102
INSDAT	1664
INSTJP	0103
INSTR	0032
J	0312
K	0313
KEEP1	0714
L	0314
LAR	0337
LBRAK	0333
LF	0212
LINEFD	0026
LPAR	0250
LSLASH	0334
LT	0274
M	0315
MESCNT	0014
MESS	0031
MESSAG	1202
MFS	0023
MHIT	0050
MINUS	0255
MRETUR	0025
MROCK	0022
M100	0104
M1600	0044
M3	0054
M300	0105

M377	0043
N	0316
NINE	0271
NSLASH	0257
NUMSIN	0243
O	0317
ONE	0261
P	0320
PERCNT	0245
PERIOD	0256
PLUS	0253
PRNT	0061
PRNT1	0725
PUTIN	0232
Q	0321
QUES	0277
QUOTE	0242
R	0322
RBRAK	0335
RESET	0401
RESETT	0501
REST	0206
RETURN	0027
ROCDAT	1000
ROCIN	0421
ROCINI	0075
ROCKET	0073
ROCKT	0400
RPAR	0251
RSTALL	0443
S	0323
SAUINI	0076
SEE	0703
SEEON	0677
SEMCOL	0273
SEVEN	0267
SIX	0266
SPACE	0240
SPEEDF	0021
SPEEDR	0020
SQUOTE	0247
STAL	0024
STALL	0077
START	0236
STARTA	0406
STARTT	0506
SYM	0030
T	0324
TAGF1	1502
TAGF2	1503
TAGR1	1176
TAGR2	1177
TEMP	0101
TEMPA	0051
TEMPB	0052
TEST	0600
TESTHT	0062
TESTY	0633
TEST1	0630
TEST2	0662
THREE	0263

U	0325
V	0326
W	0327
X	0330
XCO	0010
XC00	0012
XPUT	0011
XPUTT	0013
XR	0064
Y	0331
ZERO	0260
ZZ	0332

